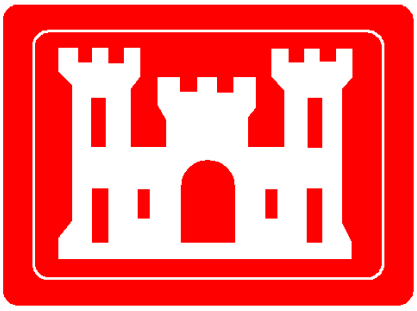
DRAFT SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

CONVEYANCE TREATMENT FOR LA JOYA ACEQUIA
SOCORRO COUNTY, NEW MEXICO



PREPARED BY

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4101 JEFFERSON PLAZA NE
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NOVEMBER 2007

U.S. ARMY CORPS OF ENGINEERS
ALBUQUERQUE DISTRICT

DRAFT SUPPLEMENTAL FINDING OF NO SIGNIFICANT IMPACT

CONVEYANCE TREATMENT FOR LA JOYA ACEQUIA
SOCORRO COUNTY, NEW MEXICO

A 1995 Corps Environmental Assessment (EA) addressed environmental impacts associated with the rehabilitation of 1.4 miles of the ditch. Impacts for the rehabilitation of a new diversion structure were documented in a 1999 EA. Under a 2001 EA a 2.1-mile segment of the acequia was rehabilitated. The proposed fall-winter 2007-2008 construction will rehabilitate 1165 ft of ditch. These repairs would consist of installing concrete lining to replace the existing earthen ditch. Other work includes replacing existing arroyo pipes, check gates, drop structures and turnouts. The improvements would provide a more efficient flow of water to the system. The existing system has significant conveyance losses, weak embankments, high sedimentation, and is often significantly damaged by high flows from arroyos. These problems result in water loss and high maintenance costs to repair damages and dredge the ditch.

Four alternatives to rehabilitate the earthen ditch have been considered: 1.) Install concrete lining and/or pipe to address specific problems along the ditch (the preferred alternative); 2.) install pipe throughout the system; 3.) concrete-line the entire system; and 4.) no action. The no action alternative would result in continued maintenance problems and expenses and seepage loss of valuable irrigation water associated with the existing earthen ditch. None of the action alternatives were determined to have significant environmental affects. Alternative 1, the preferred alternative, was determined to be the best design to meet the needs of the acequia association and solve the present problems with the ditch.

Section 404 of the Clean Water Act (CWA) provides for the protection of waters and wetlands of the United States from impacts associated with discharges of dredged or fill material into waters of the U.S. Certain discharges associated with the construction and maintenance of irrigation ditches are exempt from Section 404 permit requirements (33 CFR 323.4(a), Exemption No. 3). Therefore, a Department of the Army permit under section 404 of the CWA is not required for the installation of pipe in the Salis Arroyo.

The current project area has been previously surveyed for cultural resources and no archaeological sites or historic properties occur within the project area other than the acequia itself. The historic La Joya Acequia was previously determined eligible for nomination to the National Register of Historic Places under criteria “a” and “d” of 36 CFR 60.4. Thirty-nine percent (18,314 feet) of the 8.9-mile La Joya acequia madre’s open earthen ditch has been

affected by the installation of either concrete ditch lining or underground irrigation pipeline. The currently proposed project would affect an additional 1,165 feet or about 2.4-percent of the earthen ditch. The current project would have a negligible effect to the acequia. One archaeological site, LA88304, a prehistoric and Hispanic component site, occurs near the project area but would not be affected by the proposed project. No other cultural resources are known to occur in the immediate vicinity of the project area. Informal consultation letters were mailed to Tribes with concerns in the area. Currently, there are no known cultural resources or traditional cultural properties concerns. Consultation with the New Mexico State Historic Preservation Officer will be conducted concurrently with review of the draft environmental assessment.

The proposed action would result in only minor and temporary adverse impacts on soils, water quality, air quality and noise levels, vegetation, and wildlife during construction. The following elements have been analyzed and would not be significantly affected by the proposed action; socioeconomic environment, air quality, water quality, noise levels, flood plains, wetlands, biological resources, and threatened and endangered species. Based upon theses factors and others discussed in detail in the Supplemental Environmental Assessment, I have determined that the planned actions to rehabilitate the La Joya Acequia will have no significant impact on the human environment. Therefore, an Environmental Impact Statement will not be prepared for this project.

_____ _____

Date

Bruce Estok
Lieutenant Colonel, EN
District Engineer

U.S. ARMY CORPS OF ENGINEERS
ALBUQUERQUE DISRTICT
SUPPLLEMENTAL ENVIRONMENTAL ASSESSMENT
CONVEYANCE TREATEMENT OF LA JOYA ACEQUIA
SOCORRO COUNTY, NEW MEXICO

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

1.01 BACKGROUND AND LOCATION

The Water Resources Development Act of 1986 (Public Law 99-662) authorized the restoration and rehabilitation of irrigation ditch systems (acequias) in New Mexico. Under Section 1113 of the Act, Congress has found that New Mexico's acequias date from the eighteenth century and, due to their significance in the settlement and development of the western United States, should be restored and preserved for their cultural and historic values to the region. The Secretary of the Army, therefore, has been authorized and directed to undertake, without regard to economic analysis, such measures as are necessary to protect and restore New Mexico's acequias. The non-Federal financial responsibility of any work carried out under this section of the Act is 25 percent.

In September 2001, the Albuquerque District Engineer signed a Finding of No Significant Impact (FONSI) for the work described in the Environmental Assessment entitled "Conveyance Treatment for La Joya Acequia, Socorro County, New Mexico in September of 2001" (USACE 2001, hereinafter referred to as the "01 EA"). A copy of this document is available upon request from the Albuquerque District Corps of Engineers, Environmental Recourses Section (hereinafter referred to as the "Corps"). In 2001, a Final Supplemental Fish and Wildlife Coordination Act Activity Report for the conveyance treatment for the La Joya Acequia was conducted. A copy of this document is available upon request from the U.S Fish and Wildlife Service New Mexico Ecological Services Field office.

The 8.9-mile La Joya Acequia begins just south of New Mexico Highway 60 along the inland edge of the floodplain on the east side of the Rio Grande. The ditch is located east of Bernardo in Socorro County, New Mexico (see Figure 1). The acequia is within the La Joya and Abeytas, New Mexico, U.S. Geological Survey (USGS) 7.5-minute quadrangle maps (see Figure 2). The heading structure at Highway 60 withdraws water from another ditch, the Lower San Juan Canal (SJC), managed by the Middle Rio Grande Conservancy District (MRGCD). The return flows from the acequia empty into the river via the Bernardo Arroyo about two miles south of the village of La Joya. The La Joya Acequia is the only communal acequia system between Albuquerque and Elephant Butte Reservoir as all other ditches are part of MRGCD. The acequia

association is authorized to divert up to 36 cubic feet per second (cfs) for three acre-feet per acre per year (01EA).

The Corps has completed two major rehabilitation projects on portions of the ditch. The first in 1996, when 4,620 feet were lined with concrete and 1,993 feet were replaced with buried 48-inch diameter pipe. In addition, culverts at two arroyo crossings were replaced with pipe plus 10-foot long concrete transition structures at each end of the arroyo crossing for the transitions between ditch and pipe. In 2001, 4,765 feet of additional ditch was replaced with 48-in diameter pipe. In addition, 6395 feet of ditch was reshaped, placed on proper grade and lined with concrete to produce a smooth, trapezoidal channel for efficient water conveyance. Four arroyo crossings were rebuilt with buried 48-inch diameter pipe, plus hardened transition/ protection structures. A 15-foot wide dirt service road was constructed on the east bank part of the ditch to provide the acequia association with maintenance

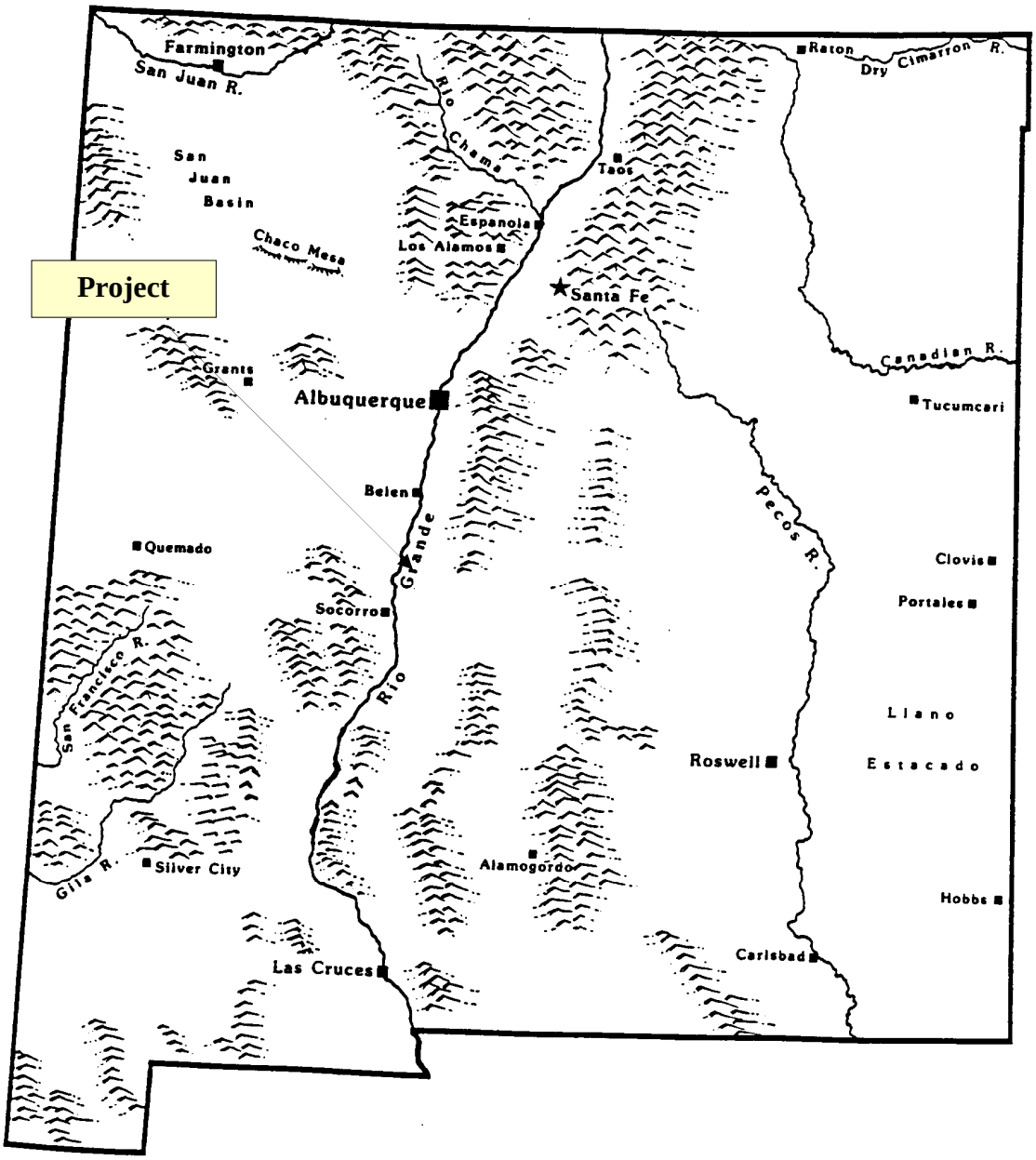

Figure 1. Map showing location of the project area for La Joya Acequia Rehabilitation, Socorro County, New Mexico.

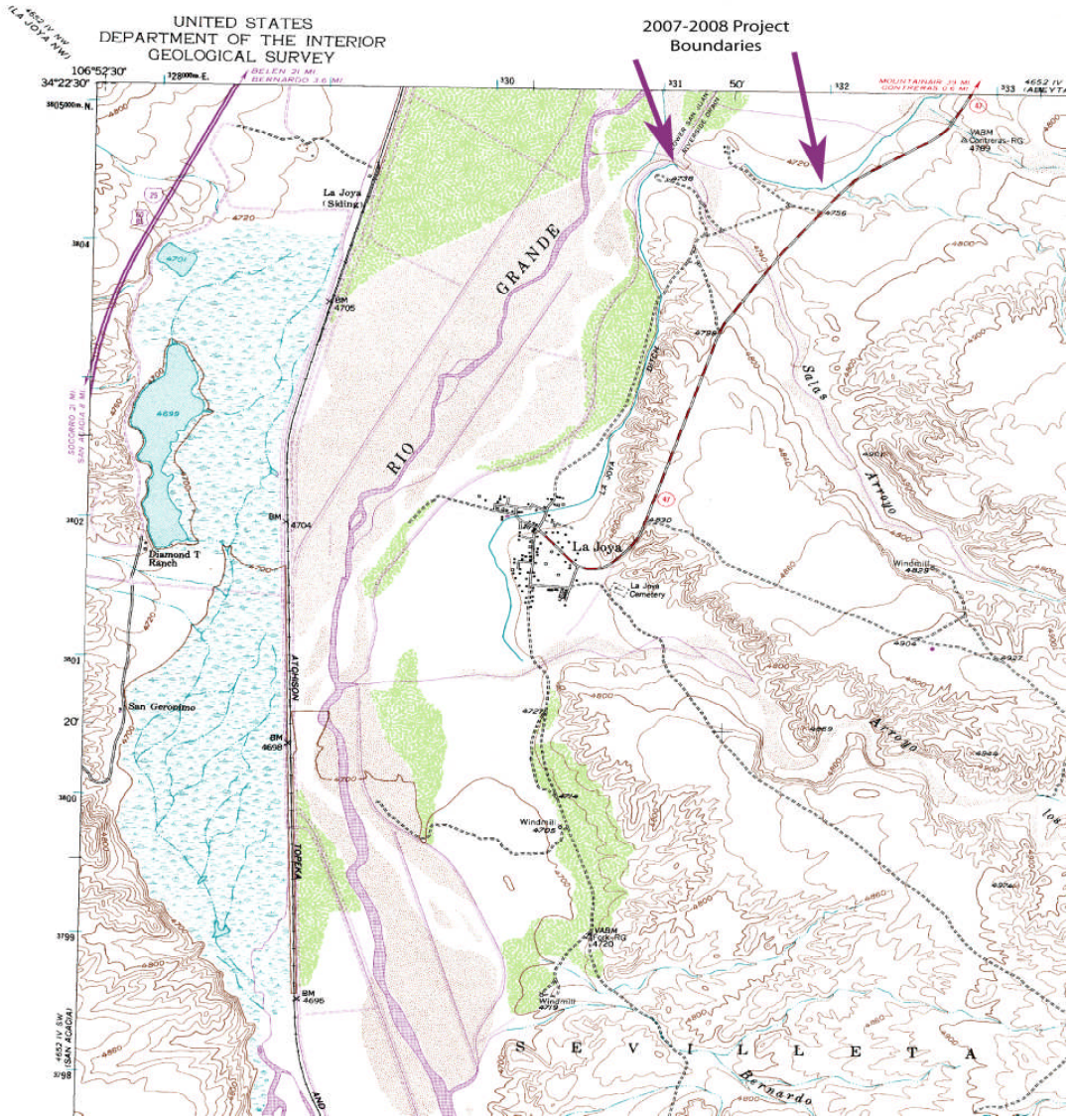

Figure 2. La Joya Acequia Rehabilitation, Socorro County, New Mexico. Adapted from: USGS Quad map: La Joya, NM (34106-c7).

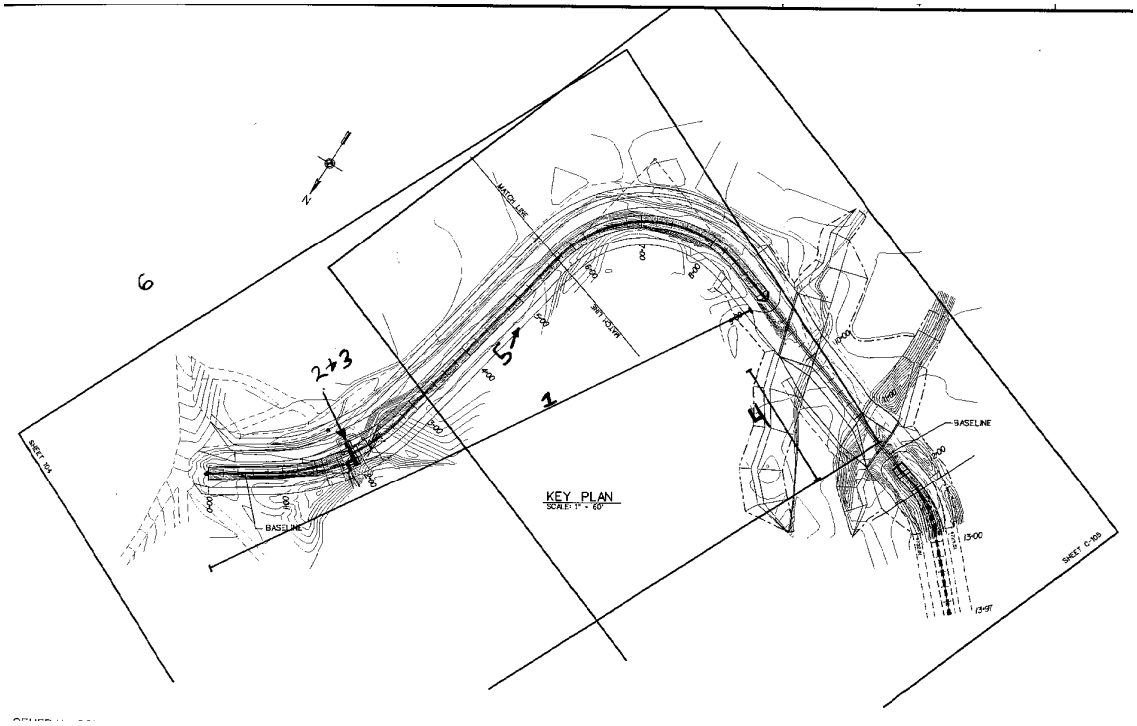

Figure 3. Key Plan of the Proposed Project Adapted from: La Joya Acequia System improvements Phase III Key Plan and General Notes sheet no. C-102

1.02 PURPOSE AND NEED AND PROJECT DISCRIPTION

The La Joya acequia system experiences significant water seepage and evapotranspiration. Ditch banks are subject to damage because of bank instability, which allows for the increase of sediment inflow. This instability has also shown to be a major problem during flooding, and has the potential to damage property and housing that parallel the acequia. Buried piping at arroyo crossings are subject to damage from water flows.

These problems result in water losses and high maintenance costs to repair arroyo crossings and dredge sediment from the acequia. The proposed actions in the fall and winter of 2007-2008 and potential future actions on the ditch are designed to address these problems. The purpose of the work is to provide a reliable, efficient, low cost, and low-maintenance system for the conveyance and distribution of water for use by the members of the acequia association.

Proposed 2007-2008 construction as shown in figure 3:

1: Replacement of approximately 965’ of earthen channel with concrete lining.

2: Installation of a 48-in check gate

3: Installation of a 12-in diameter turnout gate

4: Replacement of 200’ of existing buried pipe under the Salis arroyo, with new, 48-inch pipe reinforced with 2 inch wire rip-rap.

5: Construct a 10’ maintenance road that parallels the acequia on the west side of the channel located approximately 30’ from the center of the ditch.

6: A contactor staging area located east of the acequia and at the beginning (north end) of the proposed project. A borrow and waste area would be located at an approved commercial site outside of the proposed project boundaries.

7. Seeding of all disturbed areas with native grasses after construction has concluded.

1.03 ALTERNATIVE ANALYSIS

In general, standard earthen ditch channel rehabilitation is accomplished either by installing pipe in the old ditch, lining the ditch with concrete, lining the ditch with plastic or a combination of these methods. Pipes or siphons that cross arroyos require periodic repair or replacement due to aging or damage from storm water flows. Factors that can determine the particular method of ditch rehabilitation include the elevation and slope of land adjacent the ditch, public safety, and cost. Seepage problems and bank stabilization are resolved with either piping or concrete lining. Maintenance of open, concrete lined ditches is easiest as areas needing repairs are readily identified and accessible. Open ditches are aesthetically pleasing and in keeping with the cultural and historical nature of these structures. Buried pipe eliminates public safety concerns associated with open ditches, eliminates sediment entry from adjacent soil erosion in sloped areas, and eliminates channel blockages from external debris. At the base of slopes, replacing the earthen ditch with pipe can restore natural subsurface hydrology. Pipe or concrete linings both provide for more efficient distribution of irrigation water to the users and reduced maintenance of the system.

The section of ditch which crosses the Salis arroyo would be piped rather than lined. If this portion was lined it would be prone to channel blockage from external debris. Piping this section eliminates this factor. The remaining section of the acequia would be concrete lined to maintain the cultural and historical integrity, ascetics, increase bank stability, and decrease maintenance costs. The no-action alternative would have no impact to the ensuing resources, however the acequia would continue to leak and require constant maintenance.

1.04. REGULATORY COMPLIANCE

This Supplemental Environmental Assessment (SEA) was prepared by the Corps, in compliance with all applicable Federal statutes, regulations, and Executive Orders, including, but not limited to:

National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.)
Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 et seq.)
Clean Air Act of 1972, as amended (42 U.S.C. 7609 et seq.)
Clean Water Act of 1977, as amended (33 U.S.C. 1251 et seq.)
Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)
Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.)
Farmland Protection Policy Act (P.L. 97-90)
Floodplain Management (Executive Order 11988)
Protection of Wetlands (Executive Order 11990)
National Historic Preservation Act of 1966, as amended (16 U.S.C. 470a et seq.)
Protection of Historic Properties (36 CFR 800 et seq.)
Protection and Enhancement of the Cultural Environment (Executive Order 11593)
Native American Graves Protection and Repatriation Act of 1990
Archeological Resources Protection Act of 1979
Environmental Justice (Executive Order 12898)
Bald Eagle Protection Act (16 U.S.C. 668-668d)
Migratory Bird Treaty Act (16 U.S.C. 703-712)

This EA also reflects compliance with applicable State of New Mexico regulations and standards for water and air quality, as well as regulations conserving endangered plants and animals.

2.0 EXISTING ENVIRONMENT AND FORSEEABLE EFFECTS OF THE PROPOSED ACTION

2.01 INRODUCTION

The proposed work would be accomplished at discrete locations within the boundaries described in the 01 EA. All work would be initiated after the irrigation season in the late fall and winter and completed before the onset of irrigation in the spring. The following paragraphs discuss effects of the proposed action on the physical, biological, and cultural resources at the work sites and staging areas.

2.02 PHYSICAL RESOURCES

The 01 EA determined that the previous conveyance treatment had no effect on the following physical resources of the area. Physiography; climate; soils; floodplains and

wetlands; hydrology; land and water uses; air quality and noise; socioeconomic environment; and aesthetics. Since the proposed work would be within the construction limits of the 01 EA, the ensuing paragraphs discuss only those resources that could have changed since the signing of 01 Finding of No Significant Impact (FONSI) or could be impacted by the proposed work.

2.03 WATERS OF THE U.S. AND WATER QUALITY

Under this proposed action Salis Arroyo would be backfilled for a new 48 inch pipe. The Clean Water Act provides for the protection of waters and wetlands of the United States from impacts associated with irresponsible or unregulated discharges of dredged or fill material in aquatic habitats including wetlands, as defined under 404(b)(1). However, this act also states that certain discharges associated with the construction and maintenance of irrigation ditches are exempt from Section 404 permit requirements (33 CFR323.4 (a), Exemption No.3). Discharges associated with siphons, pumps, head gates, wing walls, weirs, diversion structures, and other facilities functionally related to irrigation ditches are also included in this exemption. Therefore, a Department of the Army Section 404 permit would not be required for the proposed action. Since the site is exempt from permitting under Section 404, it is also exempt from state certification under Section 401 of the Clean Water Act.

Section 402(p) of the Clean Water Act specifies that storm water discharges associated with construction activities disturbing one or more acres of total land area must be authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The proposed 2007-08 construction will cover an area greater than one acre, thus the contractor must apply for a NPDES permit through the EPA region 6. Best Management Practices (BMPs) would be used to reduce impacts to the water quality of waterways.

2.04 VEGETATION

Large patches of salt cedar (*Tamarix ramosissima Ledeb*.) were identified, ranging from 4-15 ft tall. Dense patches encompassed areas at the north end of the proposed project and became sparser as the ditch approached the Salis arroyo (Appendix A photo1 and 2). Honey mesquite (*Proposis glandulosa Torr*.) and two immature Rio Grande cottonwoods (*Populus fremontii* var. *wislizenii)* approximately 15-25ft tall at the southwest end of the site were also identified (Appendix A photo 3). This vegetation would be removed to construct a 10’ maintenance road. Sparse number of shrubs located on the arroyo bed would be removed, but would have a very minimal impact on the arroyo (Appendix A photo 4). During the September 24, 2007 project field survey, no rare plants found within the project site. All ditch work would be conducted outside the irrigation season (late fall/winter) when water is not present in the acequia. The proposed concrete lining would minimally affect ditch bank hydrophytic (wetland) vegetation and wildlife habitat by eliminating plants being sustained by water seepage from the earthen

channel. Adjacent cottonwoods would no longer receive water though seepage, these trees may still obtain water through root systems that extend into groundwater and from seepage off the adjacent upland slope.

2.05 THREATENED AND ENDANGERED SPECIES

In July, 2007 the bald eagle (Haliaeetus leucocephalus) was delisted by the USFWS. The bald eagle is still covered under the Bald Eagle Protection Act and the Migratory Bird Treaty Act. The Corps has determined that protocol protecting the wellbeing of bald eagles within or adjacent to the project would not change. In 2001, a juvenile bald eagle was observed by a Corps biologist within the project boundary (01 EA).

If a bald eagle is present within 0.5 mile upstream or downstream of the active project site in the morning before project activity starts, or following breaks in project activity, the contractor would be required to suspend all activity until the bird leaves of its own volition, or the Corps biologist, in cooperation with the USFWS, determines that the potential for harassment is minimal. However, if an eagle arrives during construction activities or if an eagle is beyond .05 miles the site, construction would not be interrupted. If bald eagles are found consistently in the immediate project area during the construction period, the Corps would contact the Service to determine necessary action. On this basis, the planned designs and alternatives would have no affect on the conservation or survival of the bald eagle.

In 2005 a large population of Pecos sunflower *(Helianthus paradoxus)* was discovered at the La Joya State Waterfowl Management which is located to the northwest of the proposed conveyance project (USFWS, 2005). The Pecos sunflower was listed as threatened on October 20, 1999. However, during a September 24, 2007 site visit the Pecos sunflower was not identified in the 2007-2008 proposed construction.

The Southwestern Willow Flycatcher (Empidonax traillii extimus) is known to use the Rio Grande valley on its migratory pathway (National Park Service, 1998). A monoculture of salt cedar on the north end of the project (Appendix A photo 1 and 2) is scheduled to be removed during the construction of the 10’ maintenance road. During a November 2, 2007 informal site visit with the Debra Hill at the USFWS, it was determined that the area did not have sufficient overstoring and understory. Unlike in the 01 EA, this specific monoculture was determined unsuitable habitat for the Flycatcher. Therefore the construction during 2007-2008 will have no affect on the Southwestern Willow Flycatcher.

2.06 CULTURAL RESOURCES

The current La Joya Acequia Rehabilitation Project area, approximately 1,165 feet of the 8.9-mile acequia madre, was previously surveyed for cultural resources in 1991-1992 by Marshall and Marshall (1992) for the Bureau of Reclamation and by Corps archaeologists Gregory D. Everhart and John D. Schelberg in July of 2001 (Everhart

2001). Marshall and Marshall (1992) covered approximately the northern one-half of the La Joya acequia madre, from the La Joya diversion structure at NM Highway 60 downstream to the village of La Joya. Other La Joya acequia project areas previously identified as project areas 3 and 5 and located upstream of the current project area were re-surveyed for cultural resources and the results reported by Kneebone (1995). Since the Corps was assisting the La Joya Acequia Association in 2001 with proposed project areas 1 and 2, and due to the time elapsed since the 1992 Marshall and Marshall and 1995 Kneebone surveys, Everhart and Schelberg re-surveyed the ditch alignment from the diversion structure downstream to the north side of the La Joya community. Their survey excluded a short segment of the ditch within the La Joya community, and for the first time surveyed from the south side of La Joya downstream to the acequia's desagua or end of the ditch (Everhart 2001).

To begin the investigation for the current project, on October 23 and 24, 2007, Everhart conducted remote electronic data searches of the New Mexico Archaeological Record Management Section's (ARMS) New Mexico Cultural Resources Inventory System (NMCRIS) database as well as of the State Register of Cultural Properties and the National Register of Historic Places. No State or Federal Register properties are reported to occur in the immediate vicinity of the project area. One archaeological site, LA88304, a prehistoric and Hispanic component site known as Los Ranchitos de la Joya (Marshall and Marshall 1992), occurs near the project area but would not be affected by the proposed project. No other archaeological resources are known to occur in the immediate vicinity of the project area.

The historic La Joya Acequia was previously determined eligible for nomination to the National Register of Historic Places under criteria "a" and "d" of 36 CFR 60.4, and two segments of the La Joya Acequia were previously given New Mexico Laboratory of Anthropology site numbers, LA109835 and LA108453, for Segments No. 3 and No. 5, respectively (Kneebone 1995:8; Everhart 2001:11-12). The current concrete ditch lining and siphon rehabilitation project will connect to the downstream end of Segment 5 (LA108453). The proposed rehabilitation work would have a negligible effect to Segment 5.

To date, previous rehabilitation work has converted a total of approximately 18,314 feet of the earthen acequia ditch to either concrete ditch lining or underground irrigation pipeline; Segment 1 (4,765 feet), Segment 2 (6,375 feet), Segment 3 (5,320 feet), and Segment 5 (1,854 feet (see Everhart 2001, Tables 1 and 2). The 18,314 feet of previous rehabilitation covers approximately 39-percent of the 8.9-mile La Joya acequia madre. The currently proposed project would affect an additional 1,165 feet or about 2.4-percent of the earthen ditch.

Consistent with the Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 28, 1998, and based on the State of New Mexico Indian Affairs Department and Historic Preservation Division's 2007 Native American Consultations List, American Indian Tribes/Pueblos that have indicated they have concerns in this portion of Socorro County have been

contacted regarding the proposed project. These include Acoma Pueblo, Comanche Indian Tribe, Hopi Tribe, Isleta Pueblo, Kiowa Tribe, Mescalero Apache Tribe, Navajo Nation, and the White Mountain Apache Tribe. Informal consultation (scoping) letters were mailed to these Tribes on November 16, 2007. Currently, there are no known cultural resources or traditional cultural properties concerns. Consultation with the New Mexico State Historic Preservation Officer will be conducted concurrently with review of the draft environmental assessment.

3.0 CUMULATIVE EFFECTS

There are no foreseeable Federal, State or local actions anticipated in the vicinity of the project area. All work would be accomplished before the commencement of the 2008 irrigation season. The proposed construction would not raise cumulative effects to any environmental or cultural resource to a significant level. The new structures would reduce ditch yearly maintenance, lower water loss, and lessen the potential of flooding of adjacent property.

4.0 CONCLUSION

The proposed action would provide reliable irrigation of agricultural lands owned by members of the La Joya Acequia Association. The planned action would result in minor and or temporary impacts of physical and biological resource in the local area during construction. The 2007-2008 construction would preserve the economic, cultural and historic values of the La Joya acequia system. The proposed action would have no significant impacts over the no-action alternative.

5.0 PREPARERS

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QUALITY CONTROL
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John Schelberg PhD., Archaeologist

6.0 REFERENCES

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Investigations in the Middle Rio Grande Conservancy District: A Cultural Resource Survey of Irrigation and Drainage Canals in the Isleta-South to La Joya Area, The 1991-1992 Bureau of Reclamation Phase II Survey. Prepared by Cibola Research Consultants, Corrales, New Mexico. Submitted by Complete Archaeological Services Associates, Cortez, Colorado. CASA Report No. 92-32. Prepared for the U.S. Bureau of Reclamation, Upper Colorado Region, Salt Lake City.

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APPENDIX A

Picture 1

Picture 2

Salt cedar (*Tamarix ramosissima Ledeb*.) that will be removed to construct the 10' maintenance road. (a. is looking to the west on the west side of the acequia, b. is looking to the southeast from the northwest end of the project.

Picture 3

A Cottonwood that will be removed at the southwest end of the project.

Photo 4

Salis Arroyo looking to the south.